plan of having separate ventilating flues, cleverly registered by Mr. Walker, of Manchester, seems likely to be useful. It consists of a series of oblong tubes, rounded in the corners, placed side by side in stacks of any number required. These tubes are of different sizes; the large ones acting as chimney-flues for the fire-places; the small ones as ventilating tubes. From the side of the chimney-flue forming that of the ventilating tube, the air contained within the latter is rarified, and its ascending power increased. The plan is simple: from the arrangement of the tubes, little or no extra space is required in the placing of a stack of chimneys.

VENTILATION OF HOSPITALS AND OTHER BUILDINGS.

The conditions prescribed for Dr. Arnott with respect to the ventilation of the York County Hospital, now in progress, were the forcing of a sufficient quantity of air into the building every minute, and the means of measuring that quantity exactly: 2,000 cubic feet a minute was the amount determined on, and it was desired that the apparatus should be as nearly self-acting as possible.

To meet these requirements a pump has been constructed, consisting of a weigh-beam, with a gasometer (a bell-shaped metal vessel) working in a trough of water at one end, and a counterpoise at the other. The gasometer is about 6 feet diameter, and holds 125 cubic feet of air. Every time the gasometer descends or ascends, its contents are discharged into air-drains leading to the building, and this being made to occur sixteen times in a minute, the requisite 2,000 feet of air are delivered.

To give motion to the machine, the well-known property in fluids of transmitting pressure equally in all directions was had recourse to. An inch pipe from a cistern of water 60 feet above the apparatus gives a pressure of 30 lbs. on the square inch, and this acting on a syringe 12 inches long, with a piston 2 inches in diameter, is sufficient to force up the gasometer, which, being heavier than the counterpoise, again descends by its own weight: of course, if the column of water were 120 feet long, half the quantity of water would do the same work. By the arrangement we are describing, the quantity of water used per day is 1,440 gallons, which at the Manchester rate would cost 4½d. per day, if wasted; but inasmuch as it is uninjured and unsoiled, it may be used for domestic purposes, and so would cost nothing. To prevent the pipes from being burst by the shutting off of the column of water, an air-vessel is provided near the syringe; but into this and the other ingenious arrangements by which the general idea we have indicated is carried out, we need not now enter.

Should any very young reader have heard here for the first time of this property in fluids of transmitting pressure equally in all directions, the hydrostatic paradox, as it has been termed, and which produced the hydraulic press, they cannot do better than apply themselves to "The Elements of Physics," written by the constructor of this pump, and they will find their eyes opened by it and their understanding enlarged.

THE BRITISH MUSEUM.

Agitation has gained for the public an immunity from the meditated inclosure of this pile. Large as is the structure, already the custodes complain of want of room for the glorious remnants of antiquity now deposited in the court-yard of Montague House, and of space for the arrangement of what had been formerly huddled together on the shelves of the old red brick edifice. Any ordinary exhibitor could find in the spacious halls (not half filled) of the new Museum room for double the collection, and the caterers for the great coming National Exposition could easily find space in the empty expanse for numerous galleries to deposit and array double the number of glass cases which now only half furnish the area of the various compartments. Without disturbing the domiciles already completed, an expedient drawn from the Great Exhibition of 1851, might afford ample space for the reliques from Nineveh—the ephynxes, lions, obelisks, and even for the sculpture now scattered along dark galleries, or barred off from observation in "souterains" at a temperature below zero!

The great internal court-yard if covered in with a glass dome would give room for the whole contents of the national collection: an ample causeway might be reserved all round, and at the angles four areas as large as most structures possess in cities.*

With four entrances from the centres of the square, it would be accessible on all sides, and being covered in with *pellucid* glass this colossal hall, whatever its height, could obstruct no light from the windows of the present structure. Ornamentation to any extent might be introduced in stained glass—but simplicity, as in the details of the Exposition, is the truer nobility.

From a miniature example (the rotunda in the Colosseum) the advantages of a circular and well-lighted hall may be inferred; and whilst such a structure may be easily heated to a genial temperature, there is no danger from fire, as the material is at the same time incombustible and almost imperishable.

Ventilation in summer can be as easily assured as warmth in winter; and here while on the subject of the Exhibition, it is impossible to omit the expression of a hope that this structure may be permanent. Such a winter garden, enclosing eighteen acres, filled with all the shrubs and flowers that are indigenous to the Temperate Zones, heated to an equable degree, and cultivated as the gardeners of the Horticultural Society, Regent's Park, know well to effect, would be a solace, a benefit, and a luxury to the inhabitants of London.

But again to the Museum—if the wings devoted to private domiciles are not gutted and converted at a vast expense to the purpose of locating marbles and blocks, there is no alternative except to erect another massive building on a new site, and therein to encase the remains, which could never be introduced after the portals were set up. Next to space, light for sculpture is the first consideration—and these obtained, it is of little consequence where the custodes and servitors dwell.—Quondam.

* See Professor Hosking's Design, p. 206, *ante*.

ARCHITECTURAL PUFFING, AND "ECCLESIOLOGICAL" BITTERNESS.

Sir,—With a natural curiosity to know what is said and done on all sides, in matters of "Ecclesiology," I usually see the *Ecclesiologist*, a periodical which, if conducted in a less partial and more generous spirit, might exercise great influence, and be looked upon as an authority in such matters. That this is not the case, as now conducted, I unhesitatingly affirm. I have often been struck with the blind and almost nauseous praise of two favoured architects, whose works are almost invariably held up to admiration; the whims and eccentricities of one being deemed "deserving of study and imitation;" the common-place productions of the other, with his servile devotion to all the extreme views and "dicta" of particular parties, being thought "excellently proportioned," or "rivalling ancient examples." In the last number of the *Ecclesiologist* I was particularly struck with this favouritism, though it is by no means uncommon, whilst the works of almost every architect mentioned are condemned, as not falling within the extreme views of "ritual arrangement" entertained by the critics of this work, or as not according with their distinctions of date and style. There is a view given of a common-place inharmonious design for a cathedral building at Perth, and two views in connection with a very simple and easy restoration. The only other views of modern churches which have ever been given in the *Ecclesiologist* were by the same architects as these. This year they give a lithograph of the new Church of Saint Mary Magdalene, building in Munster-square by one of their friends, who, in their own words, "has enriched the present number with a view of the proposed building," and of which I can only say, I seek in vain to discover any great merit or originality—a church which is not to be named in the same day with many other modern churches, building by less favoured architects. The other illustration is of "a proposed church to be built at Stoke Newington" by their other *protégé*. This affected and unpleasing composition has, however, received such a dressing in a letter from Mr. E. A. Freeman (published in the October number of the *Ecclesiologist*), that I am content merely to ask your readers to refer to this letter: they will, no doubt, agree with Mr. Freeman and myself that "its entire want of architectural merit is rendered more conspicuous by its pretence and its affectation of singularity." In Mr. Freeman's letter he complains boldly and truly of the barefaced partiality shown to this gentleman. The *Ecclesiologist* is so completely to these two practitioners what the "Poet of the Million" is to Messrs. Moses and Son, that I recommend these architects to have the complimentary passages of each number reprinted in a small form and mediæval type, and thrown into the windows of cabs and omnibuses as they leave the railway stations: it would probably add to their employment, as there is no doubt this ingenious method of puffing does to that of its authors, Messrs. Moses.

At the meetings of the committee of the Ecclesiological Society the designs of these gentlemen form the standing dishes—the *ever pièce de résistance*. No wonder that the ideas of these gentlemen, having been subjected to the criticisms and mutilations of the committee (and no doubt received by their authors with all faith and meekness), are puffed and praised by the critics of this work, frequently members of this very committee, and deemed as supremely correct and ecclesiastical, "deserving very high commendation" and receiving their "warm approbation." It would be fairer in these writers to remember that their views and "dicta" are not laws; that they are strongly disputed, and even dreaded by a large portion of the church and laity. There should, at least, be some consideration for the works of other architects not employed by persons holding these extreme views; but no allowance is made for the difficulties they may have had to contend with; frequently of limited and insufficient funds; of prejudices or selfishness on the part of squires or churchwardens; of dread on the part of the clergymen that certain arrangements or decorations in their churches may identify them with Tractarianism; and though last, not least, of the views and decisions of the bishop in whose diocese they build, and who happily, perhaps, for the purity of our religion, are often not inclined to *ape* the "form and tinsel" of Romish worship.

If the main purpose of the *Ecclesiologist* be now, unluckily, to puff a couple of friends, at all events the writers need not endeavour to pain or injure others, showing often not less malignity than ignorance, and entire want of feeling for art. I send you my name, and you will know that I am An Architect.

PATENT LAWS AND POOR INVENTORS.

The despondent murmurs of the "poor inventors" have been pretty loudly reverberated, and it is to be earnestly hoped that the doom of our vile and plundering patent laws will be shortly sealed. Amongst various other writers on the subject recently, a correspondent of the *Morning Herald* says:—"The intended industrial exhibition of 1851 has naturally directed attention to the defective state of the law for the protection of designs and inventions, and on the principle that the first sufferers are the first to cry out when the shoe pinches, inventors who are unwilling or unable to procure letters patent for their inventions, are sadly complaining that there is no efficient protection provided for them by the Provisional Registration of Designs Act. . . . . Society reaps the great benefit—*ergo*, society has the strongest interest that inventions and improvements should be published; but society can hardly expect inventors to publish, unless inventors can retain the property of their inventions after publication, at least, for a much longer period than one year. I have already suggested a remedy for this evil; viz., to grant letters patent without stamp-tax or official fees, but as complete justice seems hopeless, I would suggest the following compromise between our right to have our scientific property protected without extra charge, and the practice of selling justice (very dear), which has prevailed hitherto:—That a patent right for three years be granted (on applica-

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